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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KLAS SORGER and JÜRGEN BEZLER

Appeal 2015-001563
Application 13/132,798
Technology Center 1700

Before TERRY J. OWENS, ELIZABETH M. ROESEL, and
JENNIFER R. GUPTA, *Administrative Patent Judges*.

ROESEL, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants¹ appeal under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1–12. An oral hearing was held on January 12, 2017. We have jurisdiction under 35 U.S.C. § 6(b).²

We REVERSE.

¹ Wacker Chemie AG is identified as the real party in interest. App. Br. 1.

² In our opinion below, we reference the Specification filed June 3, 2011 (Spec.), the Final Office Action mailed August 15, 2013 (Final Action), the Appeal Brief filed May 19, 2014 (App. Br.), the Examiner's Answer mailed September 17, 2014 (Ans.), and the Reply Brief filed November 17, 2014 (Reply Br.).

STATEMENT OF THE CASE

Claimed Invention

The claimed subject matter relates to a pervious concrete composition. App. Br. 11 (claim 1). According to the Specification, pervious concrete is useful for paving roads and parking lots due to its low noise and drainage characteristics. Spec. 1–2.

Claim 1 is the sole independent claim and is reproduced below from Appellants' Claims Appendix:

1. A pervious concrete composition with a cavity volume between 10 and 35 vol.%, containing hydraulic binder, filler and polymer, wherein a vinyl acetate-ethylene copolymer with a glass transition temperature T_g of $\leq 20^\circ\text{C}$ is contained as the polymer.

App. Br. 11.

References³

Schmitz	US 5,747,578	May 5, 1998
Berg	US 5,861,057	Jan. 19, 1999

Rejections

The Examiner maintains the rejection of claims 1–12 under 35 U.S.C. § 103(a) as unpatentable over Schmitz in view of Berg. Final Action 2–4.

ANALYSIS

We agree with Appellants that the Examiner errs in finding, as a matter of fact, that a person of ordinary skill in the art, absent hindsight, would have selected the copolymer binder disclosed in Schmitz for

³ For each reference, we list the first-named inventor only.

combination with a drainage concrete, as disclosed in Berg. Final Action 2; App. Br. 2–7; Ans. 4–6.

The Examiner finds that Schmitz teaches a concrete composition satisfying the elements of claim 1, except for a cavity volume between 10 and 35 vol. %. Final Action 2. The Examiner finds that Berg teaches drainage concrete having a void volume from 10 to 35%, comprising hydraulic binder, aggregates (filler), and a polymeric binder. *Id.* The Examiner finds that it would have been obvious to make the concrete composition of Schmitz using the method of Berg. *Id.* According to the Examiner, the “motivation to do so would have been to develop a drainage concrete which effects the required noise reduction in road surfacing, meet all traffic safety requirements, has good adhesion to the base and possesses a long life.” *Id.* (citing Berg, 2:41–44). Responding to Appellants’ arguments, the Examiner asserts that a person of ordinary skill in the art would have recognized that Schmitz’s polymeric binders are useful in many types of hydraulically setting building materials, including those taught by Berg. Ans. 4–5.

Appellants contend that Schmitz has no connection to pervious concrete and the Examiner’s selection of Schmitz for combination with Berg is based on hindsight. App. Br. 4; Reply Br. 1–3. Appellants identify differences between the concrete compositions and polymeric binder properties disclosed in Schmitz and Berg and argue that, in view of these differences, a person of ordinary skill in the art would not have had a reason to consider the polymeric binder of Schmitz for use in the pervious concrete composition of Berg, or have had a reasonable expectation that Schmitz’s

polymer would produce any benefit if it were added to the composition of Berg. App. Br. 4–7; Reply Br. 3–5.

We are persuaded that the Examiner’s selection of the copolymer binder disclosed in Schmitz for combination with the drainage concrete of Berg is based on impermissible hindsight and is not adequately supported by the evidence.

First, the Examiner errs in finding that a person of ordinary skill in the art would have modified the concrete composition of Schmitz to have the void volume disclosed in Berg. Final Action 2 (citing Berg, 2:41–44). The copolymer taught by Schmitz is for use in “building material formulations, in particular in sealing slurries.” Schmitz, 1:9–10. The concrete compositions cited by the Examiner are characterized by Schmitz as “sealing slurries.” Schmitz, 15:23; *see* Final Action 2 (citing Schmitz 15:22–27). In contrast, Berg discloses “drainage concrete” having a “void volume of from 10 to 35%,” which is “water-permeable” and useful for “open-pored road surfacing.” Berg, Abstract, 1:5–10. We agree with Appellants that the object of a sealing slurry—to provide an impermeable barrier—is the opposite of the object of a drainage concrete—to eliminate an impermeable barrier. Reply Br. 4. Accordingly, we are persuaded that there is insufficient evidentiary basis for the Examiner’s finding that a person of ordinary skill in the art would have modified the sealing slurry of Schmitz to have the void volume disclosed in Berg.

Second, the Examiner errs in finding that a person of ordinary skill in the art would have recognized that Schmitz’s polymeric binder would be useful in many types of hydraulically setting building materials. Ans. 4–5. As support for this finding, the Examiner cites Schmitz’s disclosure that

“[c]opolymers have been employed for many years in the building sector as a polymer improving agent for hydraulically setting systems, preferably in the form of dispersion powders.” Schmitz 1:13–16 (Description of Related Art); *see* Ans. 4. That disclosure, however, pertains to copolymers in general, not to the specific copolymer disclosed by Schmitz. The Examiner does not direct us to evidence sufficient to support a finding that Schmitz’s polymeric binder would be useful in many types of hydraulically setting building materials, including the drainage concrete disclosed in Berg.

Third, the differences between the concrete compositions and polymeric binder properties disclosed in Schmitz and Berg, as identified by Appellants, persuade us that the Examiner errs in finding that a person of ordinary skill in the art would have found it obvious to use a polymeric binder of the type disclosed in Schmitz in a drainage concrete, as disclosed in Berg. The first such difference relates to the minimum film-forming temperature (MFT) and glass transition temperature (T_g) of the polymeric binder. Berg teaches that the MFT of the polymeric binder is preferably above 30°C. Berg, 3:38–39. Appellants assert, without disagreement from the Examiner, that T_g would be correspondingly high. App. Br. 5. Schmitz, on the other hand, discloses a copolymer having a T_g of -40°C to 10°C and a MFT of preferably < 5°C, in particular $\leq 0^\circ\text{C}$. Schmitz, 2:25–26, 4:23–27. The second such difference relates to the particle size of the aggregate (filler). Berg discloses a particle size in the range from 2 to 32 mm, with a particle size distribution as uniform as possible. Berg, 4:56–60. Schmitz, on the other hand, discloses sand having a particle size of 0.1–0.4 mm. Schmitz, 15:25. In view of these differences, we find that the Examiner’s rationale for combining a polymeric binder, as disclosed in Schmitz, with a

drainage concrete, as disclosed in Berg, is not sufficiently supported by the evidence.

The foregoing deficiencies in the Examiner's findings and conclusions regarding claim 1 are not remedied by the Examiner's findings or conclusions regarding claims 2–12, which depend from claim 1. We therefore determine that a preponderance of the evidence does not support the Examiner's conclusion of obviousness with respect to independent claim 1 and its dependent claims 2–12, and we do not sustain the rejection of these claims over Schmitz and Berg.

The Examiner's decision is REVERSED.

REVERSED